

REMARKS/ARGUMENTS

Upon entry of the instant amendment, claims 1-12 are pending. The Examiner is respectfully requested to reconsider and withdraw the rejection of these claims.

CLAIM REJECTIONS – 35 U.S.C. § 103

Claims 1, 4, 5, and 7 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kano, U.S. Patent No. 5,380,679 in view of Lin, U.S. Patent No. 5,929,525. The Applicant agrees that Kano fails to teach a coating of the plated pillars with a low dielectric polymer; curing the polymer and exposing the top surface of the polymer forming a metal layer to contact the exposed surface of the pillars. The Examiner cites the Lin patent as disclosing a low dielectric coating. The Applicant respectfully disagrees with the Examiner that the Lin patent discloses a low dielectric coating. As set forth in the response to the previous Official Action, spin on glass (SOG) has a relatively high dielectric value and thus increases the capacitance of the device and therefore decreases its performance. The Applicant respectfully disagrees with the Examiner's assertion on page 7 of the Official Action that since SOG is a silicon-based polymer, it reads on the limitation. The Applicant respectfully asserts that not all silicon-based polymers have low dielectric values. It is respectfully submitted that the Examiner's basis for the rejection is improper for several reasons. First, on page 7 of the Detailed Action, the Examiner is reading limitations from the specification and, in particular, paragraphs [0028], [0029], [0025], and [0037] into the claims. It is respectfully submitted that the Examiner is clearly prohibited from reading limitations of the specification into a claim. While the specification may be used to interpret words in the claim, it is clearly improper to read limitations from the specification into a claim. Here, the claim reads, "a low dielectric polymer." It is well known in the art that SOG is a high dielectric polymer. Even though paragraphs [0028], [0029], [0025], and [0037] of the specification relate to a silicon-based polymer, it is respectfully submitted that claim 1 and its dependent claims recite "a low dielectric polymer." It

is respectfully submitted that the Examiner cannot ignore the fact that SOG is a high dielectric polymer. Since the Lin patent, as well as the Kano patent (see column 5, line 44) teach SOG as the dielectric, and since SOG is a high dielectric polymer, it is respectfully submitted that these references teach away from the use of a low dielectric polymer. For these reasons, the Examiner is respectfully requested to reconsider and withdraw this rejection.

Claims 2, 6, 8, and 9 have been rejected as being unpatentable over Kano in view of Lin and further in view of the Applicant's admitted prior art. Claim 2, 6, 8, and 9 are dependent upon claim 1. The Kano and Lin patents have been discussed above. The admitted prior art, likewise, does not disclose a process as recited in claims 2, 6, 8, and 9 and, likewise, does not recite coating a plated pillar with a low dielectric coating. For these reasons and the above reasons, the Examiner is respectfully requested to reconsider and withdraw these rejections.

Claim 3 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kano in view of Lin, and further in view of Sonogo, et al., U.S. Patent No. 6,238,042. As discussed above, neither the Kano nor the Lin patent teach a low dielectric polymer coating. As discussed above, both of these patents teach the use of SOG which is understood by those of ordinary skill in the art to relate to a high dielectric coating. The Sonogo, et al. patent was cited to disclose a method for forming a dielectric stack utilizing a planarizing coating over a non-planarizing coating. The Sonogo, et al. patent does not, otherwise, disclose the use of a low dielectric coating over a plated pillar. For these reasons and the above reasons, the Examiner is respectfully requested to reconsider and withdraw this rejection.

Claims 10 and 11 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kano in view of Lin and further in view of Furukawa, et al., U.S. Patent No. 6,387,783. Claims 10 and 11 are dependent claims. The Kano and Lin patents have been discussed above. The Furukawa patent was cited for teaching a method for patterning a metal layer using a photoresist with a re-entrant profile using a negative i-line resist. The Furukawa, et al., patent does not,

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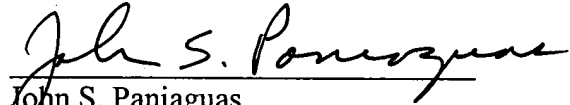
otherwise, teach coating a plated pillar with a low dielectric coating. For these reasons and the above reasons, the Examiner is respectfully requested to reconsider and withdraw this rejection.

Claim 12 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kano in view of Lin and Furukawa, and further in view of Samoto, U.S. Patent No. 5,583,063. The Kano, Lin, and Furukawa patents have been discussed above. Claim 12 is dependent. The Samoto patent was cited for teaching a NH₃ image reversal of a photoresist. The Samoto patent does not, otherwise, disclose coating a plated pillar with a low dielectric coating as recited in the claims at issue. For these reasons and all of the above reasons, the Examiner is respectfully requested to reconsider and withdraw this rejection.

Respectfully submitted,

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